Exploring the Relationship Between Youth Assets and Substance Use Among Rural Youths: An Empirical Process for Community Based Planning

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Research Problem

Communities across the United States are challenged with the task of transforming youths into healthy, productive adults. The socialization process is made more challenging when considering that adolescence is a time of disengagement from one's family of origin, testing of established norms, and experimentation with new ideas and concepts. In addition, adolescence is also the time for astonishing changes in biological, psychological and social learning. Just at the time when youths are in their latter stages of growth prior to their entrance into adulthood, many choose to alter their path by engaging in behavior that is counterproductive to healthy development.

Rural communities face the same challenges but with unique conditions. Although there is no prototypical rural community, there are general characteristics that present similar challenges in helping youths through their developmental process. Living in areas that are sparsely populated means greater spatial distances between people and services resulting in a higher degree of self-care. Formal support systems such as professional health, mental health and substance abuse resources are limited resulting in addressing these types of needs through informal systems (Kelleher & Robbins, 1997). Reliance on informal support systems such as family and neighbors can provide a supportive environment for youths; however, it can also lead to difficulty in seeking help in a confidential or anonymous manner. Private matters can quickly become public matters, with everyone knowing everyone else's private affairs (Kelleher & Robbins).

With rural communities facing restricted budgets along with limited resources, intervention strategies must be comprehensive as well as effective. In the past, deficit reduction strategies have been used to respond to youth risk behaviors. This strategy incorporates the perspective that targets for intervention population groups that are manifesting a problem or condition that runs counter to healthy development (Benson, 2003). Lacking a comprehensive perspective, such strategies are neither efficient nor, most argue, effective when considering that all youths need various assets to help them develop and avoid high-risk behaviors. A more effective strategy may be produced by the development of youth assets found to be most closely associated with avoiding specific risk behaviors by youths in their specific rural community. This type of prevention based approach would offer the best opportunity to bring systems together to work collectively

in helping youths become socialized within the fabric of the community. "Embedding youth in a caring and developmentally facilitative community can promote their ability to develop morally and to contribute to civil society" (Benson, 2003, p. 7).

In order for prevention resources to be used effectively and efficiently, community planners must be able to obtain information through local empirical findings regarding efforts that have the greatest likelihood of preventing the engagement of at risk behaviors by their youths. By having an understanding of which youth assets, if any, have the strongest relationship with various forms of such behaviors, efforts can be tailored to enhance those assets.

Viewing communities as systems, and every community having unique patterns of interactions within its boundaries, it is necessary for them to have access to measurement tools that can provide information on where to concentrate their efforts. There is a major limitation in the field of youth development due to a lack of a standardized instrument to assess the construct of youth assets.

Research Background and Questions

Youth assets are often referred to as building blocks (Leffert, Benson, Scales, Sharma, Drake, & Blyth, 1998); Scales, Leffert, & Lerner, 1999) and are centered on the second decade of life (Benson et al., 1998). When assets are present, they are theorized to enhance essential developmental outcomes, reduce health-compromising behaviors and increase positive outcomes (Leffert et al.).

Using this framework, communities seek to enhance the acquisition of assets by adolescents in order to achieve positive outcomes. Instead of using prevention strategies that place focus on a specific problem area, attention is paid to positive youth development which if present should decrease occurrences of most if not all high-risk behaviors. "It is assumed that increases in youth assets, like a rising tide, raise all ships" (Lorion & Sokoloff, 2003, p. 133).

Communities seeking to raise the level of developmental assets in their youths require the capacity to measure these assets. In order to do this, psychometrically valid instruments must be available that will provide researchers the ability to assess and compare the levels of youth assets; test the relationship between assets and risk behaviors; and compare results across populations. Communities can then take this information to help guide them through prevention efforts (Oman et al., 2002).

A variety of instruments have been developed by researchers that purport to delineate and measure youth developmental assets. These instruments include Reininger and colleagues' *Adolescent Health Attitude and Behavior Survey* (2003), Klein and colleagues' *Rochester Evaluation of Asset Development for Youth* (2006), *The Communities That Care Survey* (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002), and the Search Institutute's *Profiles of Student Life* (Scales, Leffert, & Lerner, 1999). Problems associated with these instruments have been noted to be poor internal reliability (Leffert et al., 1998) and conceptualization problems regarding the differentiation between youth assets and risk factors.

A relatively recent inclusion of instruments purporting to measure youth assets is The *Youth Asset Survey* (YAS). Developed by Oman and colleagues of the University of Oklahoma's Health Science Center, the YAS is a 37 item survey that purports to measure

the following assets: family communication, future aspirations, responsible choices, good health practices, use of time (religion), use of time (sports/groups), non-parental adult role models, peer role models, and community involvement (Oman et al., 2002). Developed by the public health sector, the YAS was constructed using the same theoretical components employed by developmental theorists. Stressing primary prevention, the developers desired to depart from the deficit-based perspective and toward an outlook of producing positive outcomes for all youth.

To date, there has been limited use of the YAS. Populations under study have been limited to two mid-sized, Midwestern cities. Oman and colleagues' study used a random selection process in choosing subjects to study; however, there was a response rate of just 51% (Oman, 2002). Since little is known about those who declined to do the survey, it was impossible to determine if those declining represented significant differences on key variables to those choosing to participate.

Despite these concerns and limitations, YAS appears to provide potential for prevention scientists and practitioners, as well as community developers for obtaining information necessary to guide intervention strategies. On a practical level, the instrument is in the public domain and therefore entails no cost for its use. The 38 items used, provide a short and concise way to measure assets requiring at most ten to fifteen minutes to complete.

Oman and colleagues noted that the survey has as of yet not been administered to a rural population (2002). It is therefore useful to administer this survey to a rural population in order to further the testing of this instrument and to determine its usefulness in helping rural community planners and practitioners respond to the needs of their youths.

Analysis of youth assets on both a theoretical and applied level of research requires a specific type of risk behavior to be measured. Unless it is shown that higher levels of assets are associated with lower occurrences of risk behavior, than the theory surrounding youth developmental assets must be reevaluated. The risk behavior chosen for this study was the reported frequency of use of tobacco, alcohol, and marijuana within the past year.

This study focused in on the following research questions. First, what is the factorial construction of the 37 items that make up the YAS? Second, what is the prevalence of the factors (youth assets) constructed among adolescents residing in the rural community of Wayne County, Ohio? Third, what is the prevalence of reported yearly use of tobacco, alcohol and marijuana among these adolescents; and fourth, what is the capacity of youth assets to predict the reported use of these substances?

Methodology

This study used a secondary data analysis. The data for the study were drawn from paper surveys administered by school officials from three public school districts in Wayne County, Ohio. The surveys were administered in classes during regular school hours. The study's design, method of data collection, and approval to consider data as secondary was submitted to Case Western University's Internal Review Board and approved by the board (IRB Protocol 20090219).

The survey consisted of two parts, the YAS and a set of questions pertaining to the frequency of use of various substances during the past year. The YAS purports to measure nine assets; family communications, peer role models, future aspirations, responsible choices, community involvement, good health practices, use of time (groups/sports), use of time (religion), and non-parental adult role models. These assets were derived at from a factorial analysis conducted by Oman and colleagues (2002). This study conducted an identical factorial analysis to determine whether the same factors are extracted. After the factorial structure was determined, each factor was scored on a 1 (low) to 4 (high) scale, with the score derived from the mean responses to each of the Likert-like items making up the factor.

This study used seven response items to measure the frequency of substance use within the previous year. Three items pertaining to the reported frequency of use of beer, liquor, and coolers were used to quantify the use of alcohol; three items pertaining to the reported use of cigarettes, smokeless tobacco and cigars were used to quantify the reported use of tobacco; and the reported use of marijuana was used to quantify this substance. The attributes for frequency of use during the past year were; did not use, once/year, 6 times/year, once/month, twice per month, once/week, 3 times/week, and every day.

Demographic variables used were grade level, age, gender, and race. In addition, respondents were asked to indicate adults who currently live in their households. This list included; mother or step-mother, father or step-father, aunt, uncle, grandmother, grandfather, and other. These variables were used to control for their effect on the reported use for each of the three substances.

After a series of preliminary data analysis, including a principal axis factor analysis with varimax rotation, three hierarchical multiple ordinary least squares regressions were conducted in order to answer the primary research questions. Each regression had as its dependent variable, one of the three types of substance. The demographic variables of age, gender and family type were entered at the first step with assets scores added to the demographic variables at the second step.

Results

There was a total of 2443 students enrolled in the grade levels to which the surveys were administered. Of this total, 2230 were reported by the school districts to have been in attendance on the day the survey was administered. There were 2114 surveys returned or a 94.8% response rate for those in attendance.

Principal axis factor analysis with varimax rotation was performed with the 37 items to determine whether the items were sufficiently interconnected to make them factorable, and if affirmative, whether the items factor into similar patterns as that displayed by Oman and colleagues' in their initial publication of results regarding the Youth Asset Survey (Oman et al., 2002). Eight factors loaded with eigenvalues of 1.0 or greater, all of which were above the *elbow* in the scree plot. These factors represented eight assets, with the asset of *good health practices* being removed from study. The one item that comprised this asset in the original study loaded into the factor of *responsible choices*. All 37 items had factor loading scores of .30 or above, and 36 of the 37 items

had factor loading scores of greater than .40. Only one item had more than one factor with loading scores of .40 or greater.

Inter-item reliability analysis of the eight subscales was conducted using Cronbach's alpha. Each of the eight subscales displayed acceptable internal consistency for the purpose of the type of analysis to be conducted (Nunnally, 1978). Peer role model, with six items, displayed the highest degree of internal consistency ($\alpha = .87$, $M = 17.84$, $SD = 3.86$) and future aspirations, with three items, had the lowest alpha level ($\alpha = .71$, $M = 10.72$, $SD = 1.56$). In general, the inter-item reliability alpha levels were stronger than levels published by Oman and colleagues (2002) for their study.

The results from this data analysis indicated that a strong and significant association exists between youth assets and the reported frequency use of substances among the sample of rural adolescents in Wayne County, Ohio. Asset scores entered into the hierarchical regression model doubled the predictive capacity, over the model including only demographic variables, of reported frequency use of alcohol, tobacco and marijuana by rural youth. Age retained its significant contribution to the overall predictive capacity for both models; however, neither gender nor household type retained a significant contribution to the overall predictive capacity of substance use upon assets being entered into the model.

For the reported use of alcohol, youth asset scores added a significant amount of explained variance (17.6%) over that explained by demographic variables alone. Overall, the regression analysis revealed that the second model significantly predicted the reported frequency of alcohol use by rural youths, $F(11, 1857) = 76.63$, $p < .001$. R^2 for the model was .312, and adjusted R^2 was .308. Reported tobacco use displayed similar findings. The analysis revealed that the model which included the youth asset sub-scores significantly predicted the reported frequency of tobacco use, $F(11, 1858) = 64.75$, $p < .001$. R^2 for the model was .277, and the adjusted R^2 was .273. The model enhanced the predictive capacity displayed by the first model by over 17%. Youth asset scores also provided significant enhancements over demographic variables in the prediction of reported frequency of marijuana use. The R^2 and adjusted R^2 for Model 2 was .22, compared to Model 1 (R^2 and adjusted R^2= .09). Model 2 was significantly stronger in predicting reported marijuana use by rural youths over Model 1, $F(11, 1850) = 47.48$, $p <.001$.

The relative significant levels of the eight assets on their contribution to each of the three models were similar. The assets of *peer role models* and *responsible choices* were the most significant contributors to the predictive capacity of all three models. *Family communication* was consistently the lowest contributor to the models.

The similarities between the three models were not surprising due to preliminary data analysis. Tobacco and alcohol reported use were strongly correlated ($r=.66$, $p<.01$); as was tobacco and marijuana reported use ($r=.64$, $p<.01$); and alcohol and marijuana reported use ($r=.63$, $p<.01$).

Utility for Social Work and Community Based Practice

Building youth assets was a response to the failure of deficit reduction strategies employed by most prevention programming during the previous two decades (Reininger et al., 2003). Youth asset development requires intervention and change throughout the sphere of influences affecting adolescents. The primary emphasis at the macro level is a

consistent message regarding norms. The transmission of norms takes place at the macro level and is a key component in explaining individual behavior (Bronfenbrenner, 1979). If the norms being transmitted are different between the use of alcohol, tobacco, and marijuana; it would be expected that the impact assets have on influencing substance use would also differ. Additionally, if the norms being transmitted regarding substance use differ from one community to another, it would be expected to affect the impact that assets have on influencing substance use by youths.

Upon norms consistent with healthy development being transmitted to youths, an emphasis on helping youths bond with their social units provides a catalyst for adhering to those norms. Bonding to positive groups and individuals, as well as to a larger community providing consistent, healthy norms, results in adolescents being far more likely to engage in healthy behavior (Garmezy, 1985; Rutter, 1980; Werner, 1989). In order to build a bond between the adolescent and his or her social units, opportunity must be provided by those social units to be involved and make meaningful contributions to them (Hawkins, Catalano, & Arthur, 2002).

Communities desiring to initiate a primary prevention based strategy using developmental assets as a guiding framework must have three essential elements. First, they must have information pertaining to their local situation (Arthur & Blitz, 2000). This study provides an example of how a local community can obtain empirical information regarding the connection of assets to at-risk behaviors specific to their circumstance. Just as each individual is different so are communities. Although earlier studies' results displayed a consistent finding of a strong association between youth assets and at-risk behavior, using data from other communities may provide faulty conclusions regarding specific assets and their relationship to specific at-risk behaviors. Rural communities, especially, need data specific to their adolescent populations since there is a gap of data related to assets existing in the literature specific to this population. This approach rejects the *cookie cutter* concept, and instead leads to the perspective that building healthy communities requires an appreciation of the unique character found within each community (Ersing & Otis, 2004).

Second, communities must develop strategies and resources that enable adolescents to bond with their communities. Strategies would extend beyond the provision of groups and activities to become involved in, and would include the empowerment of youths to affect change within their community. Specific to the results of this study, rural adolescents have significant influence over their peers. Positive peer influence can be used to strengthen community for youths who are more likely to turn to other youths for guidance, advice and support (Benson, 2006). Recognizing the influence youths have on one another can help develop or refine the norm that helping others is valued. A peer-helping approach can also strengthen youths developing healthy relationships through conversation and decision making (Benson). Other types of strategies that can enhance bonding to community include putting youths in leadership roles; allowing them to be involved in the governance of operations and development of policy; using youths to communicate to others ideas, talents and skills; and providing the opportunity for youths to become philanthropists. By putting youths into leadership positions, positive peer role models are developed that a strong impact on youths' decisions to use substances.

Several types of asset building strategies and programs emphasize the capacity for youths to be asset builders for their peers as well as younger children. One such program reported by Benson (2006) was a rural community in Oklahoma using youths to teach peers about substance abuse prevention and other high-risk behaviors. Community entities included schools and congregations working together to provide to youths the opportunity to engage in leadership and educational roles directed towards the development of strategies to address social problems.

A second example is that of a mentoring program this researcher was involved in two decades ago. Mentoring programs often use adults as mentors for youth. In this prevention based program, high school youths became mentors and role models for children in younger grade levels including preschool. The youths were selected as class assistants, however, the roles they carried out developed into mentoring roles between the older youths and younger children. Important to note is that youths selected for the program were not youths accustomed to being leaders, philanthropists or educators. In fact, many had previously dropped out of high school and chose to return to finish their education. Considered to be at risk for dropping out again, this asset building opportunity resulted in every mentor finishing school and avoiding high-risk behaviors.

A third example draws from the experiences found in Hampton, Virginia where youths are selected to serve on local commissions. Although these commissions are advisory in nature and not governing, youths on these boards deal with issues pertinent to community life such as parks and recreation, neighborhoods, and school climate. Youths would often seek counsel with other youths, and then concerns and issues were presented to the appropriate group or individuals. Formalized as Youth Civic Engagement, the community stresses that youths in their city are not leaders of tomorrow; they are leaders of today (The City of Hampton, 2010).

The end result of these prevention based endeavors seeking to mobilize young people as a group to become leaders and change agents is a stronger community with enhanced bonding between youths and community. When this occurs, youths have an increase propensity to develop positive relationships with peers who have increased levels of assets, and an inclination to be engaged in healthy behaviors including the avoidance of alcohol, tobacco or other drugs.

The third essential element for a community to initiate a primary prevention based strategy using developmental assets as a guiding framework is a willingness and capacity to measure assets, at-risk behaviors and the relationship between the two variables over a period of time. The ecological approach to systems analysis embodies the concept of change within individuals as well as broader systems. Change, planned or unplanned, taking place in one dimension has the capacity to produce change in a wide assortment of domains within an ecological system. Due to this, data relevant for one point in time may not be valid or useful for another point in time. Failure to reapply measurements regarding assets may result in the failure of observing significant changes, both positive and negative, taking place on all levels of the ecosystem. For communities engaged in planned efforts to build assets, follow up measurements allow for the analysis of determining if strategies imparted have produced positive results. Repeated measures provide to communities, information related to levels of assets possessed by their youths, and the possible changing strength of relationships between assets and various at-risk behaviors.

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